

## SPECIFICATIONS

### Power Amplifier Section

#### Power Output

80 watts\* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion

#### Both Channels Driven into

8 ohms at 1,000 Hz	85 W + 85 W (Except U.S.A., Europe and U.K.)
4 ohms at 1,000 Hz	78 W + 78 W (Except U.S.A., Europe and U.K.)

Music Power Output (8 ohms)	145 W + 145 W (Except U.S.A., Europe and U.K.)
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#### Total Harmonic Distortion

AUX → SPKR (8 Ω)/ Power in → SPKR (8 Ω)  
(20 Hz to 20,000 Hz)

At Rated Output	0.09%
At 1/2 Rated Output (1,000 Hz)	0.05%

At 1/2 Rated Output . . . . . 0.005%

Phono → SPKR (8 Ω)/ At -20 dB Volume Level  
(1,000 Hz)

At Rated Output	0.04%
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#### Intermodulation Distortion (60 Hz : 7,000 Hz = 4 : 1)

At Rated Output	0.02% into 8 ohms
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#### Damping Factor

	30 (50 Hz)
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#### Frequency Response

Overall (AUX → SPKR)	10 Hz to 70,000 Hz, +0 dB, -3 dB
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#### Phono "RIAA" Response

(Phono → REC out)	30 Hz to 20 Hz, ±0.5 dB
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Power Bandwidth	10 Hz to 50,000 Hz 0.2% T.H.D. 8 ohms
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#### Input Sensitivity/Impedance

Phono MM	2.5 mV/ 47 k ohms
Tuner, AUX., Tape Play	150 mV/ 33 k ohms

#### Signal-to-Noise Ratio (IHF-A)

Phono MM	75 dB at 2.5 mV
Phono MM	81 dB at 5.0 mV
Tuner, AUX., Tape Play	100 dB

#### Phono Maximum Input Level

MM	150 mV (Phono to Tape REC), 0.05% T.H.D. at 1,000 Hz
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#### Output Level/Impedance

Tape REC (Pin)	150 mV/ 330 ohms
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#### Tone Control

60 Hz, 150 Hz, 400 Hz, 1,000 Hz, 2,400 Hz, 6,000 Hz, 15,000 Hz	±10 dB
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#### Filter

Subsonic	60 Hz, 6 dB/ oct
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#### Loudness Control

At -30 dB Volume Level	+8 dB at 100 Hz
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#### General

Power Supply Voltage, Frequency	120 V, 60 Hz (U.S.A. and Canada models), 220 V, 50 Hz (Europe model), 240 V, 50 Hz (U.K. model), 110 ~ 120 V/220 ~ 240 V, 50/60 Hz (Other countries)
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Power Consumption	2.5 A (U.S.A. and Canada models), 170 W (Other countries)
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#### AC Outlet

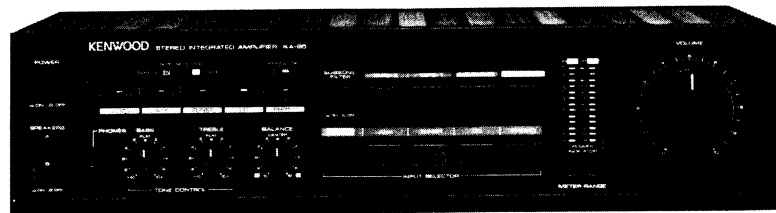
Switched	100 W
Unswitched	100 W

Dimensions	W 420 mm H 109 mm D 282 mm
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#### Weight

Net	6.6 kg
Gross	7.4 kg

\*Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A



## SPECIFICATION

(IHF'66)

Except European and U.K. Models

### Power Amplifier Section

#### Rated Power Output

125 watts per channel minimum RMS, both channels driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion

Both Channels Driven into 8 ohms at 1 kHz ..... 125 W + 125 W (Except USA, Europe and U.K.)

#### Total Harmonic Distortion (AUX - SPKR 8 Ω)

at Rated Output, 20 Hz ~ 20,000 Hz ..... 0.05%  
at 1/2 Rated Output, 20 Hz ~ 20,000 Hz ..... 0.02%  
at 1/2 Rated Output, 1 kHz ..... 0.007%

#### (PHONO - SPKR 8 Ω : at -20 dB VOLUME Level)

at Rated Output, 1 kHz ..... 0.02%

#### Intermodulation Distortion

(60 Hz:7 kHz = 4:1) ..... 0.02% at rated power  
into 8 ohms

Damping Factor ..... 20 (1,000 Hz into 8 ohms)

Frequency Response ..... 10 Hz to 100 kHz,

+0 dB, -3 dB

#### Input Sensitivity/Impedance

Phono MM ..... 2.5 mV/47 k ohms

TUNER, AUX., TAPE PLAY ..... 150 mV/33 k ohms

#### Signal-to-Noise Ratio (IHF-A)

Phono MM ..... 73 dB for 2.5 mV input

Phono MM ..... 79 dB for 5.0 mV input

TUNER, AUX., TAPE PLAY ..... 100 dB

Maximum Input Level for Phono MM ..... 140 mV (RMS), T.H.D. 0.05% at 1 kHz

#### Output Level/Impedance

TAPE REC (Pin) ..... 150 mV/3.3 k ohms

Frequency Response for Phono ..... RIAA standard curve  $\pm 0.3$  dB  
(30 Hz to 20,000 Hz)

#### Tone Control

Bass .....  $\pm 10$  dB at 100 Hz

Treble .....  $\pm 8$  dB at 10 kHz

Loudness Control (at -30 dB VOLUME Level) ..... +8 dB at 100 Hz

Subsonic Filter ..... 18 Hz, 6 dB/oct.

#### General

Power Consumption ..... 4.1 A (USA and Canada : UL and CSA)

230 W (Others)

AC Outlets ..... Switched 2, Unswitched 1

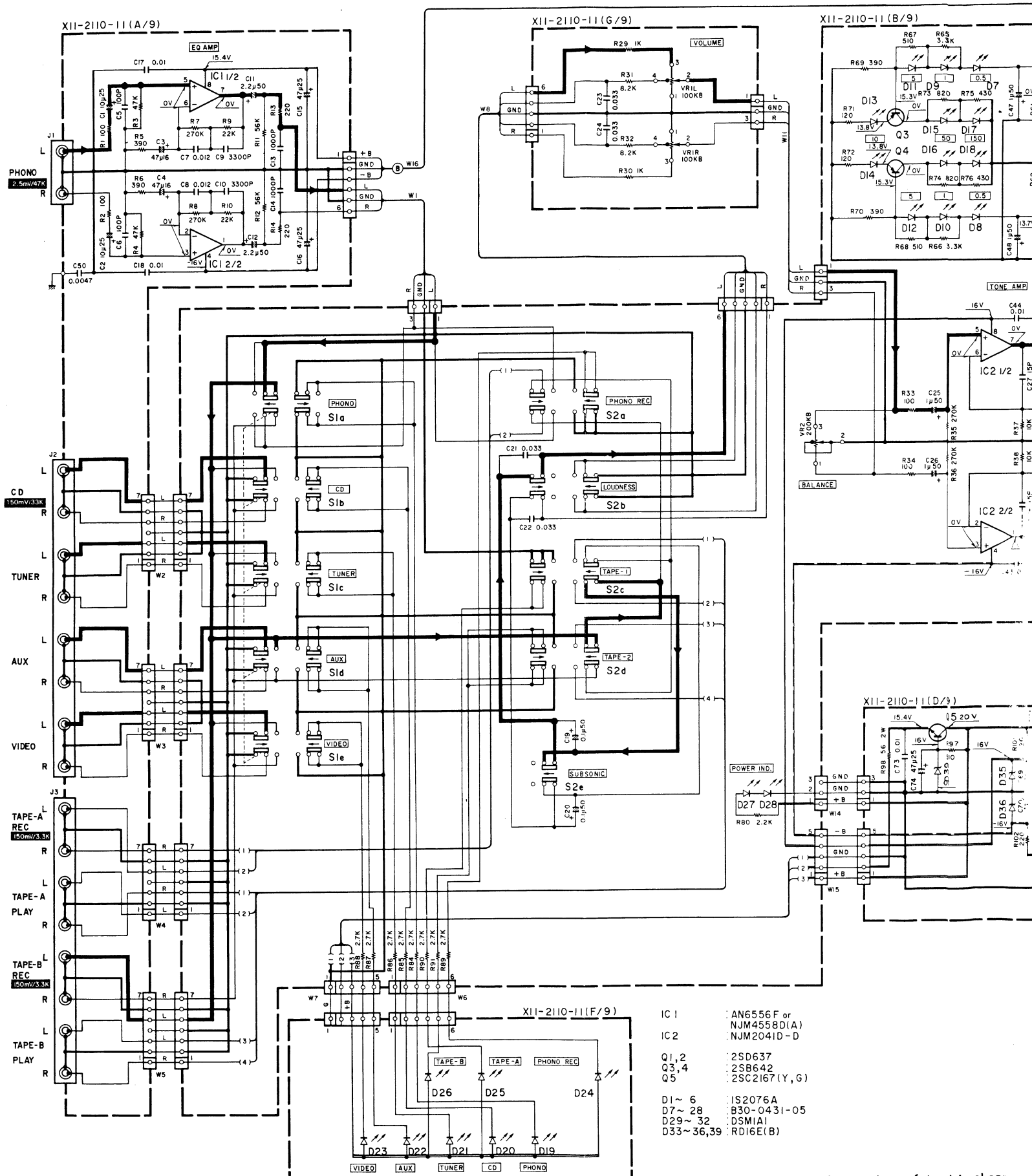
(Except some countries)


Dimensions ..... W: 420 mm (16-9/16")

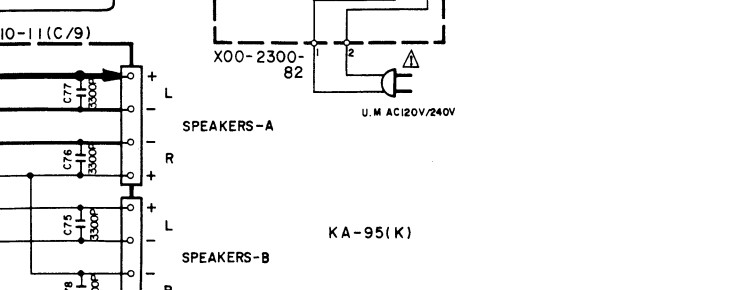
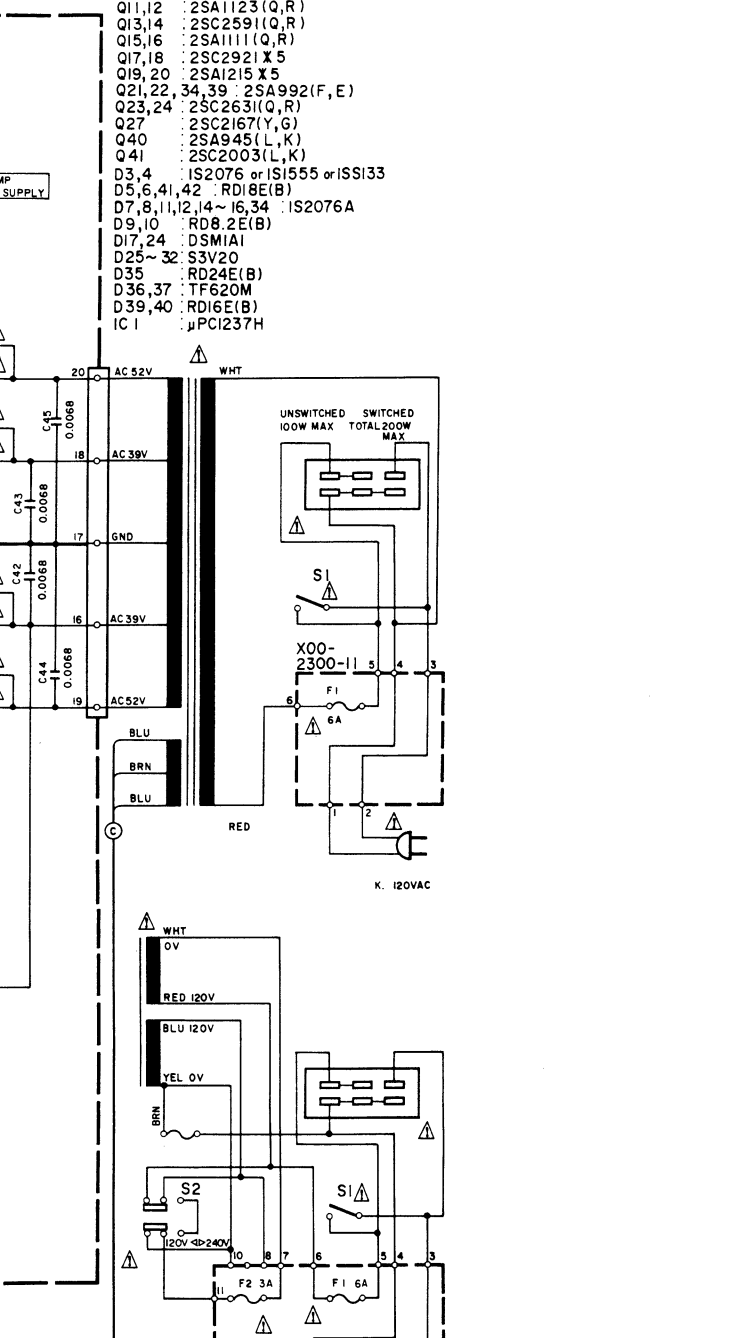
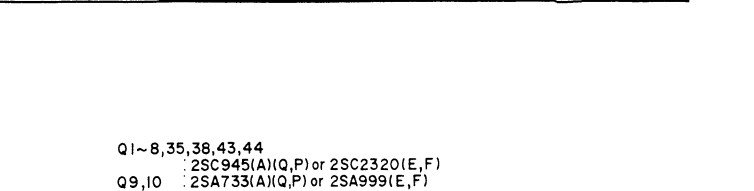
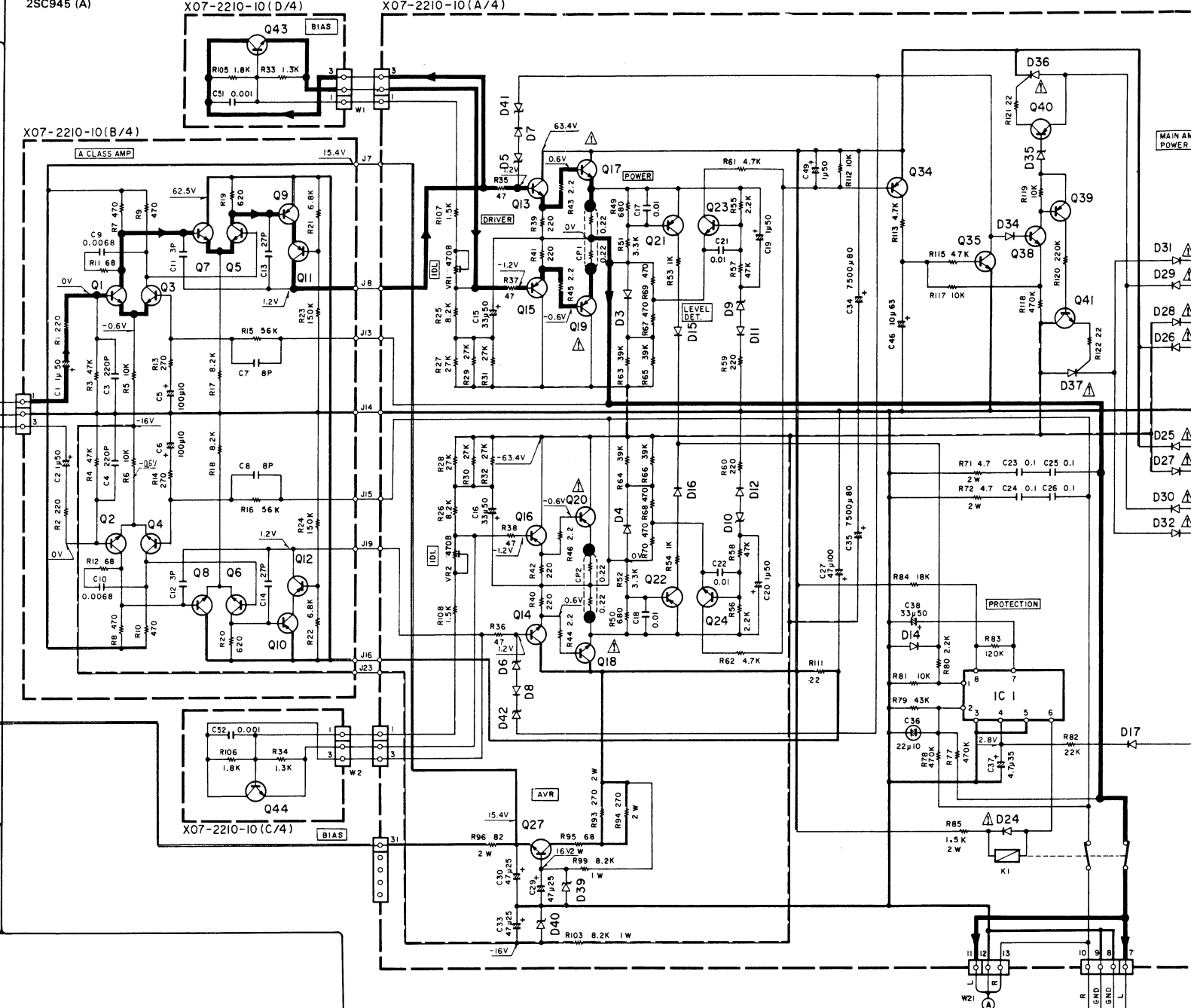
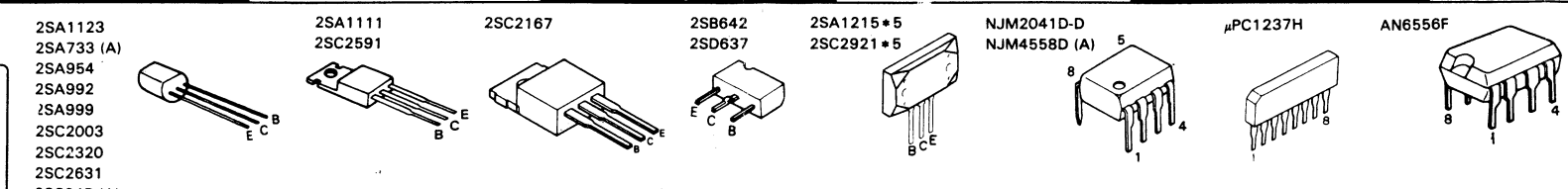
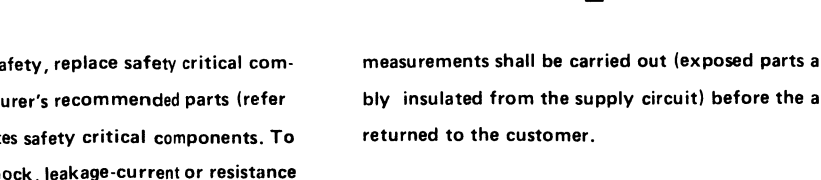
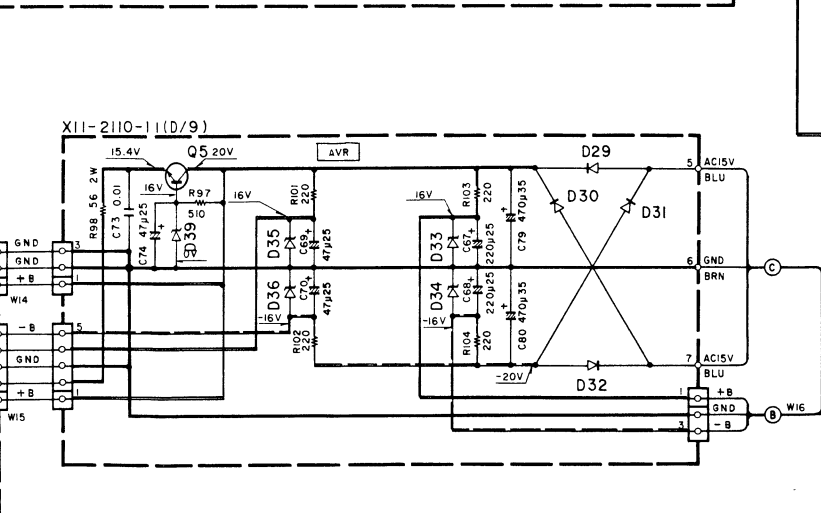
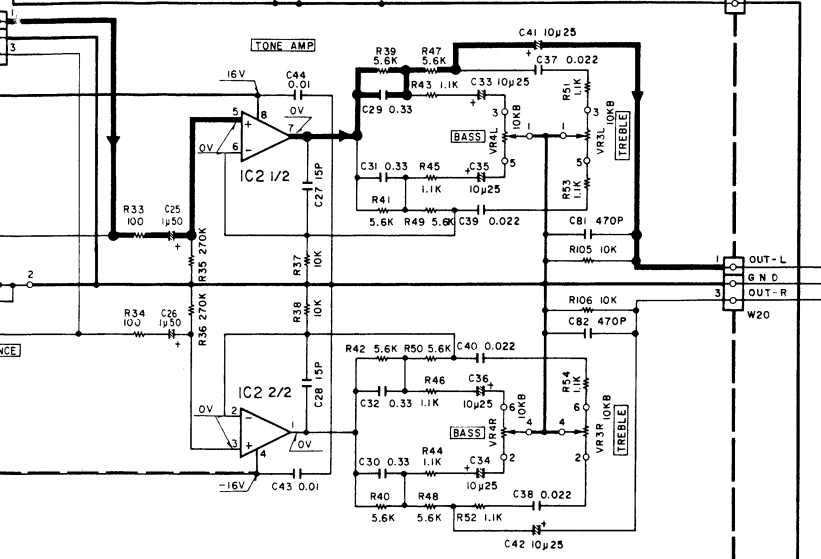
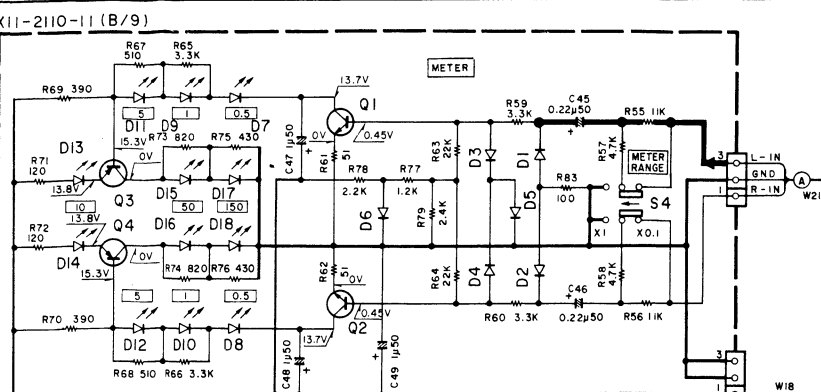
H: 109 mm (4-5/16")

D: 280 mm (11")

Weight (Net) ..... 8.5 kg (18.7 lb)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance

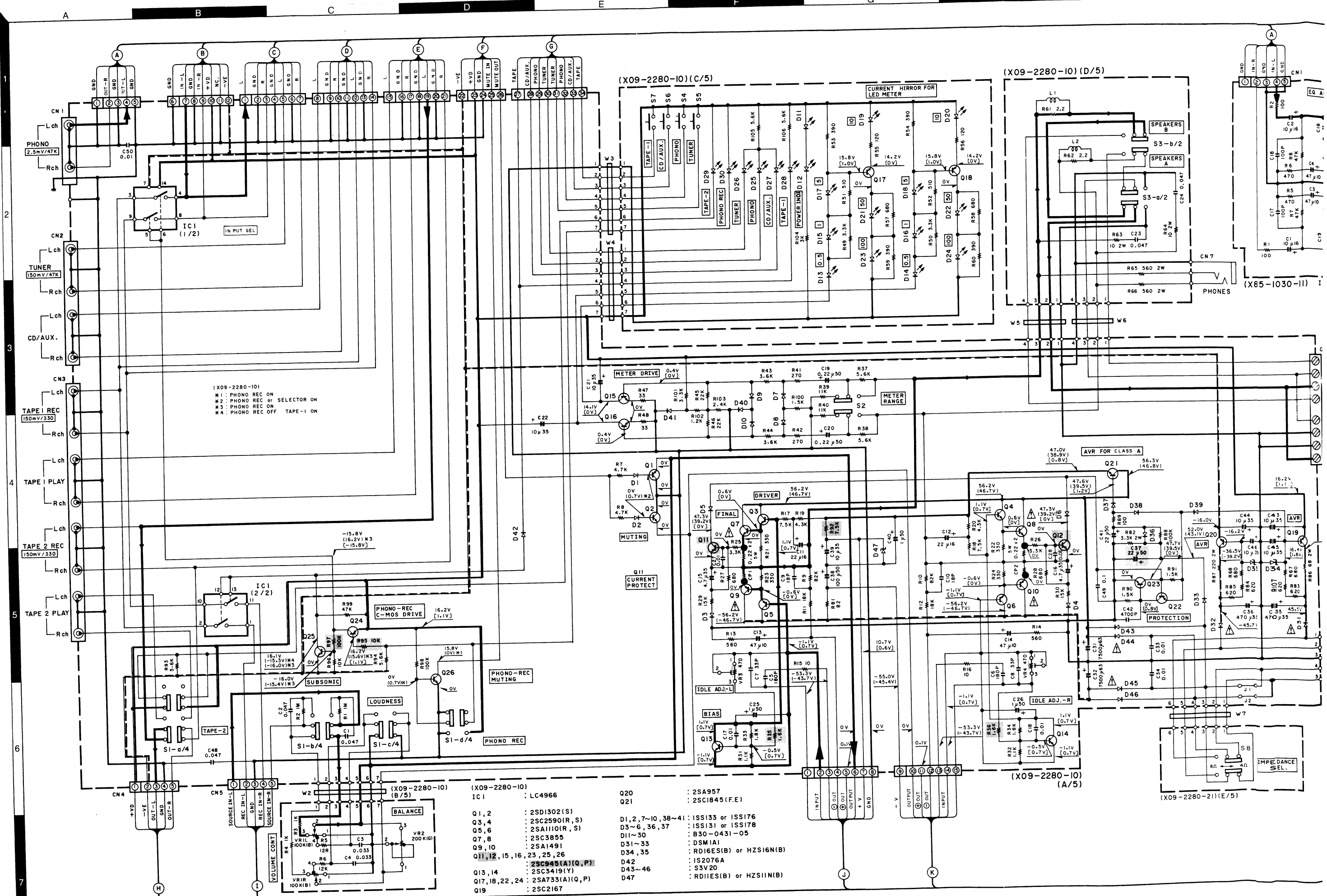


For safety, replace safety critical components with manufacturer's recommended parts (refer to the safety critical components. To ensure safety, check for leakage current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanden die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.



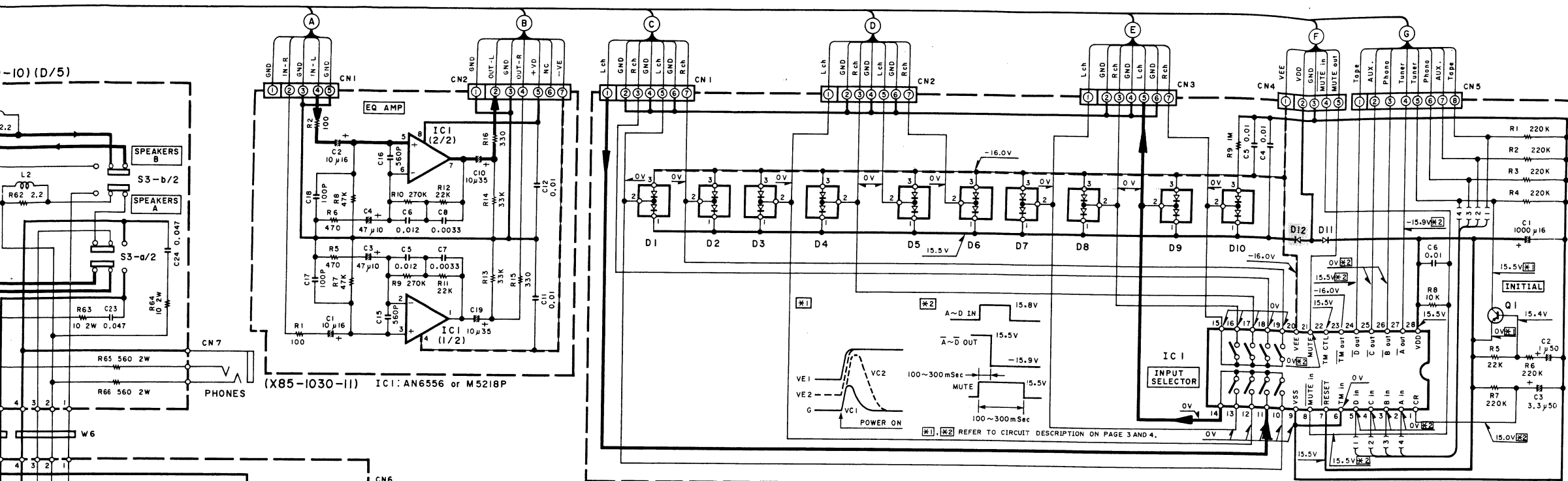
- (X09-2280-10) (C/5)
- IC1 : LC4966
- Q1,2 : 2SD1302(S)
- Q3,4 : 2SC2590(R,S)
- Q5,6 : 2SA1110(R,S)
- Q7,8 : 2SC3855
- Q9,10 : 2SA1491
- Q11,12,15,16,23,25,26 : 2SC945(A)(Q,P)
- Q13,14 : 2SC3419(Y)
- Q17,18,22,24 : 2SA733(A)(Q,P)
- Q19 : 2SC2167
- Q20 : 2SA957
- Q21 : 2SC1845(F,E)
- D1,2,7~10,38~41 : 1SS133 or 1SS176
- D3~6,36,37 : 1SS131 or 1SS178
- D11~30 : B30-0431-05
- D31~33 : DSM1A1
- D34,35 : RD16ES(B) or HZS16N(B)
- D42 : IS2076A
- D43~46 : S3V20
- D47 : RD11ES(B) or HZS11N(B)

(X09-2280-10) (D/5)

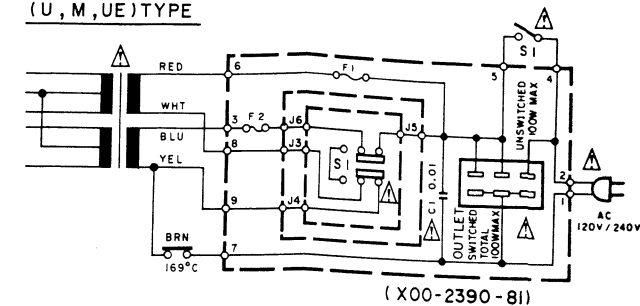
(X09-2280-10) (A/5)

(X09-2280-21) (E/5)

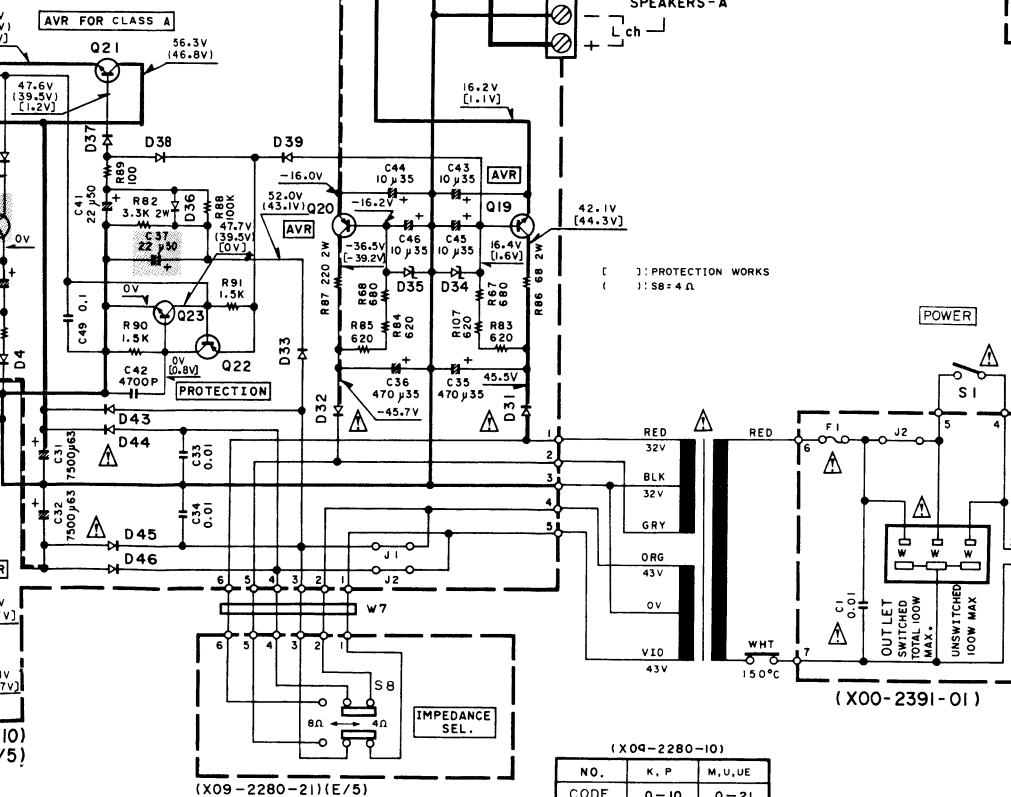
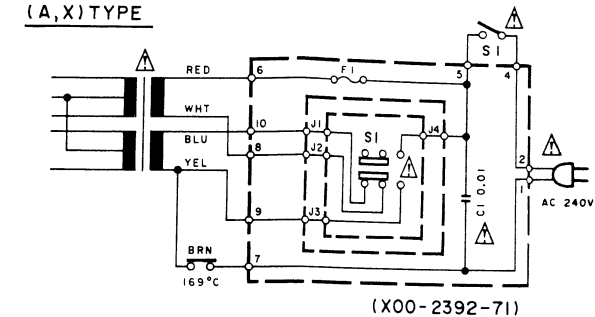
(10) (D/5)



(U, M, UE) TYPE

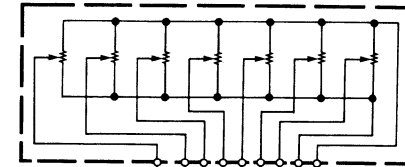


(A, X) TYPE

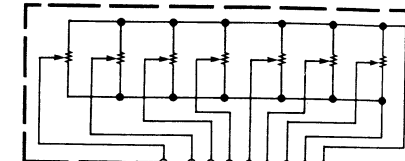


NO.	K, P	M, U, UE
CODE	0-10	0-21
J1, 2	YES	NO
W7	NO	YES
S8	NO	YES

(R29-5006-05)

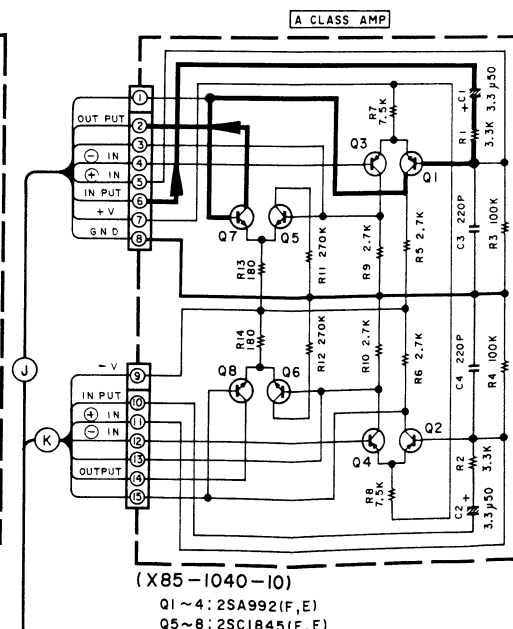


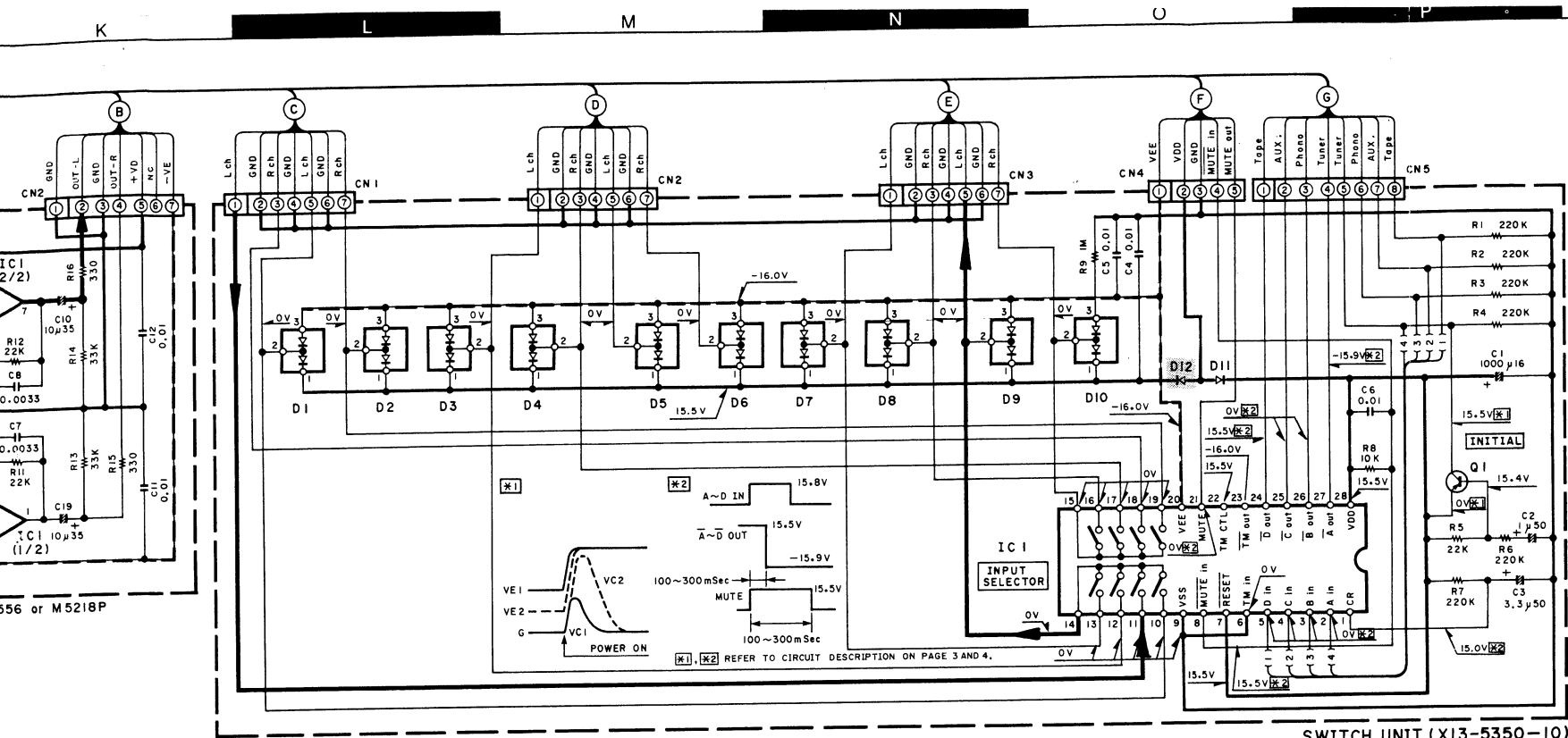
(R29-5006-05)



TONE UNIT (X11-2250-10) IC1, 2: M5229P

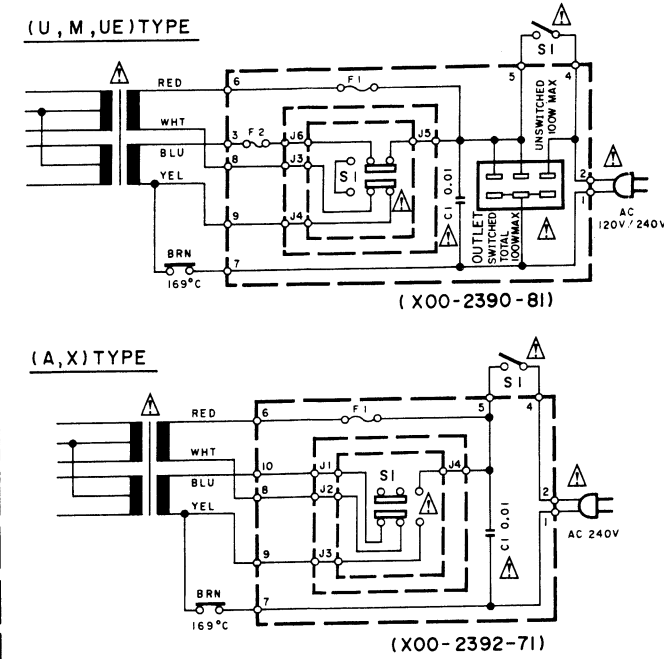
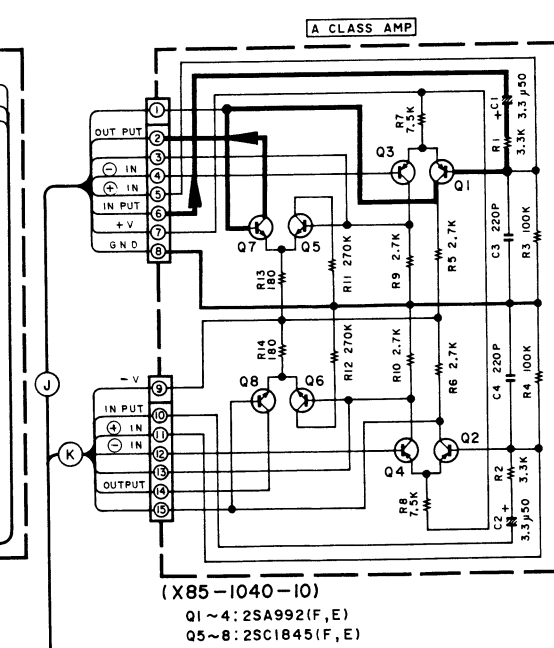
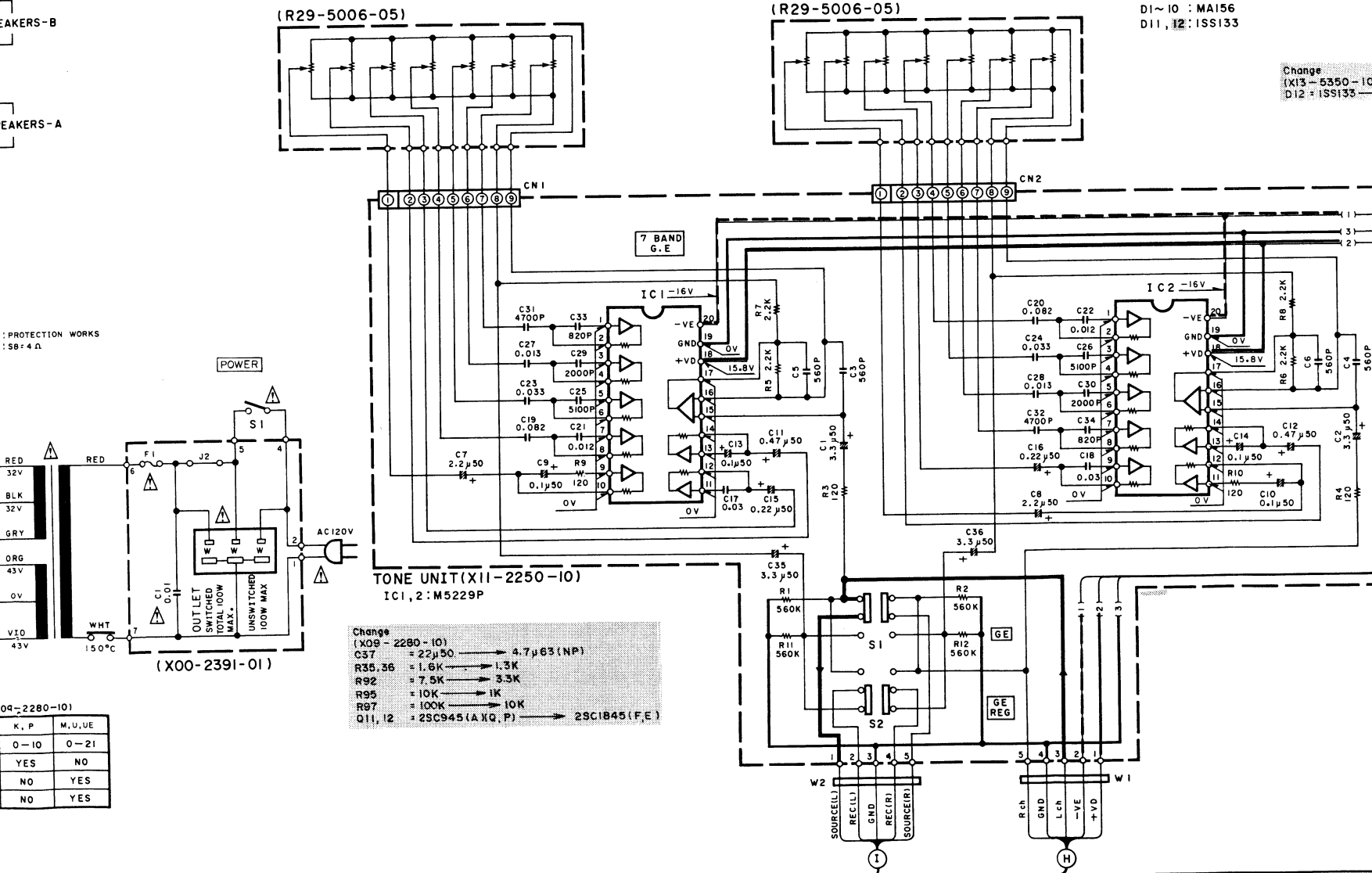
Change (X09-2280-10) C37 = 22μ50 → 4.7μ63 (NP) R35, 36 = 1.6K → 1.3K R92 = 7.5K → 3.3K R95 = 10K → 1K R97 = 100K → 10K Q11, 12 = 2SC945 (A, K, P) → 2SC1845 (F, E)





SWITCH UNIT (X13-5350-10)  
 IC1 : LC7816  
 Q1 : 2SA733(A)(Q)  
 D1~10 : MA156  
 D11, 12 : ISS133

Change  
 (X13-5350-10)  
 D12 : ISS133 → JAMPER



- 2SA733(A) 2SC945(A)
- 2SA992 2SD1302
- 2SC1845
- 2SA1110 2SC2590
- 2SA957 2SC2167
- 2SA1491 2SC3855
- 2SC3419
- M5229P
- AN6556 M5218P
- LC7816
- LC4966

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